What is claimed is:

1. A method of compensating for a possible delay between two or more radio transmission paths in space diversity radio transmissions, said method comprising the steps of:

- receiving a first analog signal;
- receiving at least one further analog signal;
- sampling said first and said at least one further analog signals to obtain a first digital signal and at least one further digital signal, respectively, a possible delay being present between the first and the at least one further digital signals; and
- sending said digital signals to respective equalizers;

wherein said method further comprises the step of

- delaying in a digital manner one of said first digital signal and said at least one further digital signal by a period equal to an integer multiple of the sampling period, and possibly the further step of
- recovering, at the equalization step, the difference between the imposed delay and the real one.

2. A method according to claim 1, wherein the delaying step comprises the step of calculating, in an automatic manner, the value of the integer multiple, wherein said step of calculating the integer multiple in turn comprises the steps of:

- realizing delayed replicas

$r_{1j}(kT_{sa}) = s_1(kT_{sa} - jT_{sa})$ and $r_{2i}(kT_{sa}) = s_2(kT_{sa} - iT_{sa})$

of said first and said at least a further digital signals, with $0 \le j \le N_1$ and $0 \le i \le N_2$, $N_1 T_{sa}$ being the maximum assumable delay of the first signal with respect to the at

least one further signal and, similarly, $N_2 T_{sa}$ the maximum assumable delay of the at least one further signal with respect to the first signal:

- calculating cross-correlations

$$xc_{1j} = E\left\{\sum_m \sum_n a_n a_m * g_2 * (kT_{sa} - mT) g_1 (kT_{sa} - nT - \tau - jT_{sa})\right\} \qquad \text{with } 0 \le j \le N_1,$$

$$xc_{2i} = E\left\{\sum_m \sum_n a_m a_n * g_1^* (kT_{sa} - nT - \tau) g_2 (kT_{sa} - mT - iT_{sa})\right\} \qquad \text{with } 0 \le i \le N_2,$$

between the various delayed replicated signals, where * denotes the complex conjugate operation and $E\{\cdot\}$ the time average operation;

- deriving the maximum value of said cross-correlations as i and j vary, namely

$$M = \max_{i,j} \left(|xc_{1j}|^p, |xc_{2i}|^p \right)$$

said maximum value corresponding to the value of the integer multiple.

3. A method according to claim 2, wherein it further comprises the step of selecting the delayed replica to be sent to said equalizers as a function of the information related to the maximum of the calculated cross-correlations.

4. An apparatus for compensating a delay between two or more radio transmission lines in space diversity radio transmissions, said apparatus comprising:

- means for receiving a first analog signal;
- means for receiving at least one further analog signal;
- means for sampling the first and the at least one further analog signal to obtain a first digital signal and at least one further digital signal, respectively, a delay being possibly present between the first and the at least one further digital signals; and
- equalizers receiving said digital signals at the input;

wherein said apparatus further comprises:

- means for delaying in a digital manner one of said first digital signal and said at lest one further digital signal by a period equal to an integer multiple of the sampling period, and equalizer means capable of restoring the difference between an imposed delay and the effective one.

5. An apparatus according to claim 4, wherein said delay means comprise means for calculating, in an automatic manner, the value of the integer multiple, wherein said automatic calculation means in turn comprise

- means for realizing delayed replicas

$r_{1j}(kT_{sa}) = s_1(kT_{sa} - jT_{sa})$ and $r_{2i}(kT_{sa}) = s_2(kT_{sa} - iT_{sa})$

of said first and said at least one further digital signals, with $0 \le j \le N_1$ and $0 \le i \le N_2$, N_1T_{sa} being the maximum assumable delay of the first signal with respect to the at least one further signal and, analogously, N_2T_{sa} the maximum assumable delay of the at least one further signal with respect to the first signal;

- means for calculating cross-correlations

$$xc_{1j} = E\left\{\sum_m \sum_n a_n a_m * g_2 * (kT_{sa} - mT) g_1(kT_{sa} - nT - \tau - jT_{sa})\right\} \quad \text{with } 0 \le j \le N_1,$$

$$xc_{2i} = E\left\{\sum_m \sum_n a_m a_n * g_1^*(kT_{sa} - nT - \tau) g_2(kT_{sa} - mT - iT_{sa})\right\} \quad \text{with } 0 \le i \le N_2$$

between the various delayed replicated signals, where * denotes the complex conjugate operation and $E\{\cdot\}$ the time average operation; and

- means for deriving a maximum value of said cross-correlations as i and j vary, namely

$$M = \max_{i,j}\left(|xc_{1j}|^p, |xc_{2i}|^p\right),$$

said maximum value corresponding to the value of the integer multiple.

6. An apparatus according to claim 5, wherein it further comprises switching means for selecting a proper delayed replica to be sent to said equalizer means as a function of information related to the maximum of the cross-correlations calculated.

7. A computer program comprising computer program code means adapted to perform all the steps of claims 1 to 3 when said program is run on a computer.

8. A computer-readable medium having a program recorded thereon, said computer-readable medium comprising computer program code means adapted to perform all the steps of claims 1 to 3 when said program is run on a computer.